

## REMARKS

The Office Action of October 15, 2007 has been received and carefully reviewed. It is submitted that, by this Amendment, all bases of rejection and objection are traversed and overcome. Upon entry of this Amendment, claims 1 and 4-12 remain in the application. Claims 15-35 have been withdrawn. Claims 2, 3, 13, 14, 36 and 37 have been cancelled. Claims 1, 7, 8 and 12 have been amended. Basis for the amendments can be found in the specification as filed, at least at page 7, lines 8-24. Reconsideration of the claims is respectfully requested.

Claims 1-14, 36 and 37 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Wilding in view of Mowry and/or Doughty.

Applicants disagree with the above rejection for the following reasons.

Applicants' invention as recited in claim 1 relates to a biochip including a heating device integrated with the substrate of the biochip. The heating device is configured to generate heat over substantially all of the assay region of the substrate. The heat generated by the heating device produces both a temperature sufficient to assist in conducting the assay and another temperature sufficient to destroy the biological substance for decontamination of the biochip and rendering untraceable a human source of the biological substance being tested. Furthermore, the biochip is disposable.

In contrast, Wilding teaches a disposable biochip with a heating device on the substrate which serves to heat the assay on the biochip, but does not provide heat for decontamination or rendering human sources of the biological substances untraceable by destroying the samples.

Further, Mowry teaches a non-disposable biochip with a micropyrolyzer that is part of a chemical analyzer. The micropyrolyzer in Mowry serves the purpose of vaporizing samples for analysis in the chemical analyzer system. The micropyrolyzer does not destroy the samples for decontamination or rendering human sources of the biological substances untraceable as in the presently claimed application. Instead, Mowry's micropyrolyzer provides various degrees of heat for conducting assays of the biological samples but none which is intended to destroy the samples.

Finally, Doung teaches a thermal controller which is not part of a biochip. Rather, the thermal controller of Doung accomplishes the heating of many biochips at the same time to decontaminate them. The biochips are all contained in a cartridge while being heated by the one thermal controller. Clearly, the thermal controller is not integrated into any of the individual biochips.

The combination of Wilding with Mowry and/or Doung does not suggest the presently claimed application, a thermal controller incorporated into a disposable biochip which has the dual purpose at different times of both heating the assay and destroying the sample.

Neither of the heating devices of Wilding and Mowry is meant to be used to destroy the sample for decontamination (see Mowry, column 6, lines 48-55). Instead they are meant to facilitate an assay with the sample. Destroying the samples is an idea *not suggested in either reference*.

Although the heating device of Doung is used to destroy samples, one heating device is used to decontaminate a whole cartridge full of biochips. Since it is not incorporated into an individual disposable biochip, it is not designed to itself be disposable, nor to be able to facilitate an individual assay in the biochip. It is certainly not suggested by Doung, for both cost and design reasons, to incorporate Doung's device into individual disposable biochips to perform the dual tasks of facilitating assays and destroying the biological samples. For these reasons, among others, it is submitted that one skilled in the art would not integrate Doung's device into an individual biochip to achieve what applicants presently claim. A heating device incorporated into an individual disposable biochip which both heats the chip to perform assays and to destroy the sample to decontaminate the biochip is not taught nor suggested by Doung alone or in combination with Wilding or Mowry.

Even if it would be possible, there would be no advantage in incorporating either of the non-disposable heating devices of Mowry or Doung into the disposable biochip of Wilding. First of all, it would merely render the Wilding biochip much more expensive and therefore not likely to be disposable any more. Clearly the goals of disposability of the

biochip and dual capability of the heating device achieved in the presently claimed application would not be reached. Neither Mowry or Doughty, in being combined with Wilding, teach or suggest a way to achieve these goals in a disposable biochip.

In light of the above, Applicant asserts that there is no suggestion to combine or modify the references brought together in this §103(a) rejection in order to achieve the presently claimed application. And, with the combination of references, there would be no reasonable expectation of success in achieving the presently claimed application. Clearly, the references either alone or together do not teach or suggest all the claimed limitations of the present application. Applicant therefore asserts that the requirements for a *prima facie* case of obviousness have not been satisfied.

As such, it is submitted that Applicant's invention as defined in independent claims 1, 8 and 36, and in those claims depending ultimately therefrom, is not anticipated, taught or rendered obvious by Wilding, Mowry and Doughty, either alone or in combination, and patentably defines over the art of record.

In summary, claims 1 and 4-12 remain in the application. It is submitted that, through this Amendment, Applicant's invention as set forth in these claims is now in a condition suitable for allowance.

Further and favorable consideration is requested. If the Examiner believes it would expedite prosecution of the above-identified application, the Examiner is cordially invited to contact Applicants' Attorney at the below-listed telephone number.

Respectfully submitted,

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